

## **REMARKS**

No new matter has been added by the amendment. Claims 1-30 were originally filed. Claims 1-30 were subject to a restriction requirement. Claims 1-9 and 21-25 have been cancelled without prejudice. Claims 10-20 and 26-30 are pending in this application. Reconsideration of the present application, as amended, is respectfully requested. The Examiner's comments are addressed in substantially the same order as presented in the Office Action.

## **INFORMATION DISCLOSURE STATEMENT**

The examiner has stated that the Information Disclosure Statement is missing. A duplicate of the IDS filed on May 1, 2002 and received by the PTO on May 10, 2002 is included herein. A copy of the return postcard dated May 10, 2002 is also included, verifying the receipt date.

## **DOUBLE PATENTING**

The examiner has advised that should claims 26-30 be found allowable, claims 16-20 will be objected to under 37 CFR 1.75 as being substantial duplicates thereof. Applicants respectfully request the examiner to reconsider this analysis. Independent claims 16 and 26, as amended herein, are drawn to differences in scope of the claimed invention. Claim 16 is an independent claim placing no limitation on the direction of direction of acoustic signals therein, nor does it place a limitation on the symmetry of the attachment of the masses to the outer surface of the wall of the body. Claim 26 is of a different scope and is directed to preferentially attenuating signals passing through the body in a predetermined direction and asymmetrically attaching masses to the outer surface of the body. Clearly, claims 16 and 26 are addressed to differing scopes of the present invention. Applicants have availed themselves of the right to

reasonably restate their claims to their invention. A mere difference in scope between claims has been held to be enough (MPEP 706.03(k)).

### **REJECTIONS UNDER 35 USC § 102**

The examiner has rejected claims 10, 12, 13, 16-20, and 26-30 under 35 USC 102(b) as being anticipated by Birchak et al. (US 5,510,582).

The present invention provides a system and method for attenuation of acoustic waves that travel through a drill collar in a logging while drilling operation. The system includes a plurality of heavy masses firmly attached to an outer surface of an outer wall of the drill collar. The heavy masses constitute mass discontinuities that attenuate waves traveling through the drill collar. The plurality of heavy hanging rings are spaced and sized for the maximum attenuation of acoustic pulses in a predetermined range. The masses may be asymmetrically attached to preferentially attenuate signals passing through the drill collar in a predetermined direction.

*Birchak et al* discloses a sonic well tool for performing acoustic investigations of subsurface geological formations penetrated by a borehole. The well tool generally includes a longitudinally extending body for positioning in said borehole. The tool also includes a transmitter supported by the body for transmitting acoustic energy, and a receiver supported by the body for receiving acoustic energy

One embodiment of the invention of *Birchak et al* provides an apparatus for sonic well logging having at least one transmitter and at least one receiver. Positioned between the transmitter and the receiver is an acoustical attenuation section suitable to attenuate sonic waves

traversing the sonic well tool. This acoustical attenuation section includes one or more cavities 60 (see Figs. 3,4, and 5) inside the wall 32 of the sonic well tool, into which are inserted inertial masses 57. The cavities are generally shaped to receive the masses and are slightly larger so that a controlled gap 60 will exist between the walls of the cavities and the inertial masses as the mass is positioned in the cavity. The gap is filled with an acoustical attenuation fluid 63. The masses are intended to move within the cavity and out of phase with the tool body (col. 7, line 66 to col. 8, line 1). Viscous action of the acoustical attenuation fluid is intended to control the motion of the inertial mass relative to the tool body (col. 5, lines 37-45). Birchak, et al. does not disclose, teach, or suggest a plurality of heavy masses firmly attached to an outer surface of an outer wall of the drill collar, as claimed by applicants in amended independent claims 10, 16, and 26. As such, applicants respectfully submit that amended independent claims 10, 16 and 26 and the claims respectively dependent on them are patentable under 35 USC 102 over Birchak et al.

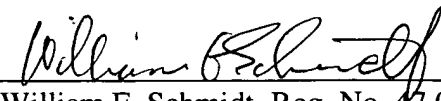
#### **REJECTIONS UNDER 35 USC § 103**

The examiner has rejected claim 11 under 35 USC 103(a) as being unpatentable over Birchak et al. (US 5,510,582) in view of Haugen (US 6,024,169). The examiner asserts that Birchak et al. teaches the limitations of claim 10 except for the drilling tubular being a coiled tubing. The examiner asserts that Haugen teaches using a coiled tubing. As argued previously, Birchak et al. do not disclose, claim, or teach the invention as claimed in amended independent claim 10. Therefore, applicants respectfully submit that independent claim 10 and its dependent claims, including claim 11, are patentable under 35 USC 103 (a) over Birchak et al in view of Haugen.

Consideration of the application as amended is respectfully requested. The Commissioner is hereby authorized to charge any fee and credit any overpayment associated with this response and Request for Continued Examination to **Deposit Account No. 02-0429(414-12383-US)**.

Respectfully submitted,

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